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EARLY CAREER CHANGE AMONG MILLENNIAL US COLLEGE GRADUATES

A Thesis

Presented in

Partial Fulfillment of the

Requirements for the Degree of

Master of Science

November, 2013

BY

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Abstract

With employers reporting high turnover among millennial employees, there is a need for better understanding of employment characteristics of this generation of workers. By analyzing the job history of 1,000 American millennials who participated in the National Longitudinal Survey of the Youth, this study found that 26% of millennial US college graduates changed careers within the first five years after obtaining their degree, but no more than past generations when they were young. Analysis also found that flexibility and optimism are not significant predictors of early career change but openness to risk has a strong positive association with early career change particularly among Hispanic millennials. Additional findings include the frequency and rate of early career change by career cluster, by major, and by gender.

Acknowledgments

Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

~Robert Frost, *The Road Not Taken*

I pursued a Master's degree in Public Service Management believing that I can serve better if I knew more. This program taught me that the purpose of learning goes beyond the accumulation of knowledge; it is the application of what we learned that truly matters. As the culmination of my advanced learning journey, this thesis means more than a degree requirement to me. By combining what I have learned with my professional interest, my goal was to contribute to the world of career theory and practice. I discovered that while it was not an easy task, I am blessed with a community of generous people who believed that I could do it:

I thank my thesis committee for their wisdom and guidance. My thesis chair, Dr. Alexandra Novakovic, was highly instrumental in shaping my research. Through countless discussions, inquiries, and correspondence, she helped me ask deeper questions and incorporate theory into my work. Dr. Ronald Fernandes served as my statistic guru, patiently explaining statistical tests and reviewing my analyses. Dr. William Calzaretta was an anchor not only for my thesis but also for the completion of my graduate studies as a whole. He helped me stay focused and motivated especially during times of impatience and worry.

I thank Dr. Paula Dempsey for helping me find the National Longitudinal Survey of the Youth (NLSY), the key instrument in my research, Dr. Greg Newmark for introducing me to the world of quantitative analysis and SPSS, and classmate Shawn Janzen, for helping me navigate the world of SPSS script and retrieve data from the NLSY.

I thank the School of Public Service faculty for deepening my understanding of Vincentian leadership and pushing me to engage the world in a meaningful way. While there is no shortage of world problems to tackle, they taught me that I can and should make a difference.

I thank my DePaul University colleagues for inspiring me each day with their endless devotion to helping our students and alumni achieve their dreams. No task is too small or too big for this mighty group.

For their endless encouragement and unconditional love, I thank my family: Narciso, Fe, Rosalia, Rosanna, Teresa, Troy, Regine, Paolo, Justin, and Lauren. Throughout my personal and professional adventures, they always believed in me. Maraming salamat.

Lastly, I thank my love, Patrick, for encouraging me to take the road less travelled. His patience, wisdom, and devotion sustained me through the completion of this important work. In times of doubt, frustration, and weary, he was my North Star.

I took on the challenge of a thesis because I knew that I would never be alone in the journey. I present this thesis as the result of collective efforts of people who have blessed me with their wisdom, love, and encouragement.

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Chapter 1: Introduction

Career changing is a decision that should not be taken lightly. Starting in a new career path not only incurs additional financial and time investments as well as emotional stress (Feldman, 2002), but also the challenge of competing with newly trained as well as more experienced workers. With over two million new associate and bachelor degree recipients joining the workforce each year (Hussar & Bailey, 2011) and an additional one million skilled professionals laid off from employment annually (Solis & Galvin, 2012), the job market is highly saturated with talent. Furthermore, changing careers may also have an impact on the career changer's family, who might need to adjust their lives to fit the new career context of the changer (Feldman, 2002; Nicholson, 1984), and on the employer, who might need to spend up to 50% to 60% of the lost employee's salary to find a replacement (Allen, 2008).

Despite these factors, a successful 21st century career calls for a protean approach that encourages individuals to actively pursue career success based on one's personal goals and timeline, not based on others and most especially not on one's employer (Hall, 1996). This call to action coupled with continuous news of company layoffs (Solis & Galvin, 2012), even among those with long tenures at the company (Mendenhall, Kalil, Spindel, & Hart, 2008), elevates the notion of career change as an acceptable and important career strategy in the modern workplace.

Statement of the Problem

Commonly referred to as the millennial generation (Howe & Strauss, 2002; Pew Research Center, 2010a; Sweeney, 2006), today's young adults were born in the 1980s and 1990s. While the young millennials are in their high school years, the older millennials have entered the professional workplace. As a generation that is larger in population, more racially diverse, and more confident in a digital environment than previous generations (Pew Research

Center, 2010a; Pew Research Center, 2010b; PwC, 2011; Society for Human Resource Management, 2013), employers are eager to attract these young talents. They quickly realize that the benefits of hiring millennials also come with challenges. Millennial workers are reported to demand more flexibility on the job and rapid career progression that is forcing employers to revisit their culture and policies (PwC, 2011; Sujansky & Ferri-Reed, 2009). When these demands are not satisfied, employers face an even bigger challenge: turnover. A survey of employers reported that more than 60% of millennials leave the company in less than three years mostly due to a better offer from another company, with each lost millennial costing them $15,000 to $25,000 (Schawbel, 2013). But with working millennials currently in their early 20s and mid-30s, perhaps it should not be surprising to see job-hopping behavior. Studies have shown that career exploration is best done early in one's career (Feldman, 2002; Gottfredson, 1977; Krumboltz, 2009; Markey & Parks, 1989; Super, 1957). If millennials are exploring by moving to different companies early and frequently, are they also exploring by moving to different job functions or industries? Does the reported low loyalty to a job or an employer translate to a low loyalty to a career path?

Unfortunately there is no available research that explores this topic. Most millennial research has been limited to their demographics, lifestyle, consumer habits, and traits (Greenberg, 2008; Pew Research Center, 2010a; Twenge, 2006; Twenge & Campbell, 2012). While surveys on the job sequence and work values of millennials (Kowske, Rasch, & Wiley, 2010; PwC, 2013; Schawbel, 2013) could inform research on their larger career patterns, I have not found any large-scale empirical research that has done so. The present study aimed to address this gap and contribute a new lens on millennial career patterns that could help employers better understand and retain their millennial talents, educators better prepare their

students to transition into the workforce, and millennials themselves to better understand the career trajectory of their peers, some of whom may be their competitors in the workplace.

Purpose of this Study

Career development and decision making has been studied for over 100 years now, often from the lenses of psychology and sociology (Brown, 2002). In reviewing literature specifically on the phenomenon of career change, I found three gaps that the present study attempted to address: career change of young professionals in the United States, large scale quantitative analysis of career changers, career change among millennials. I explore existing research in these areas further in the Literature Review section.

By simultaneously addressing all three important gaps in career change research, the purpose of the present study is to offer analysis that is new, timely, and relevant. In addition to presenting the career areas where high frequency of early career change among millennials were observed, I also analyzed the observations by gender and by college major, as well as tested if characteristics associated with individuals who leverage chance in career progression can be used to predict the probability of early career change.

Research Questions

Many of the theories related to career change have focused on the assumption that individuals change careers through a strategic and rational selection of the next career. Few have tackled the role of chance and serendipity in career change. But as Cabral and Salamone (1990) argued:

> Career decisions in the lives of individuals are rarely purely rational, nor are they in most instances based purely on chance. Some combination of planfulness and happenstance seems to drive the decisions and development of an individual's career...Individuals are most vulnerable to the effects of chance during life transitions, particularly those that occur early in the career and those that have not been anticipated. (p. 5)

Addressing this gap in literature, Mitchell, Levin, and Krumboltz (1999) created the Planned Happenstance theory. Stemming from Krumboltz's (1979) social learning theory of career decision making and influenced by Betsworth and Hansen's (1996) study of "serendipitous career development events," Planned Happenstance suggests that unplanned events are both inevitable and desirable for people to discover unexpected career opportunities. Similar to Cabral and Salamone (1990), Mitchell et al. (1999) highlighted the importance of chance and intentional exploratory experiences and identified five characteristics that are necessary to recognize, create, and use chance to find career opportunities: curiosity, persistence, flexibility, optimism, risk taking.

I used the Planned Happenstance theory as a theoretical basis for this study. Due to limited data available in the survey instrument used for this study (see Methodology section), I focused specifically on three of the five Planned Happenstance characteristics: flexibility, optimism, and openness to risk. If individuals who possess these characteristics are more likely to leverage chance to find new career opportunities, can they also predict the probability that they would change careers early in their professional life?

Primary research question. Can millennial US college graduates' flexibility, optimism, and openness to risk be used to predict the probability of changing career early?

Hypothesis 1: Flexibility will be positively associated with early career change.

Hypothesis 2: Optimism will be positively associated with early career change.

Hypothesis 3: Openness to risk will be positively associated with early career change.

Supporting questions. The present study also analyzed the career areas that millennial early career changers switched to and from within the first five years after they obtained their undergraduate degree.

Which career areas lost the most millennial US college graduates?

Which career areas gained the most?

Do graduates of certain degrees change careers early more than others?

Does gender and race play a role in early career change patterns?

While this study does not deem early career change as a positive or a negative step in one's career progression, it is important to consider the investment that one makes in pursuing a career and the implications of leaving it early. Just as employees invest their time, effort, and money in pursuing a career area, employers invest their resources in retaining and growing their workers. Results of the present study can be used to better inform career counselors and educators as they guide college students and young professionals in their career exploration. Employers and scholars can use the results of this study to further explore the career areas where high frequency of early career change were observed and investigate potential causes of attrition and solutions to increasing retention.

Chapter 2: Literature Review

This section reviews two areas of research in career change that informed the present study on millennial early career changers: factors that influence career change and characteristics of millennials.

Career Change

The role of incongruity and crisis. While analysis of career development traces its roots to the early 1900s (Brown, 2002), the early work of Davidson and Anderson (1937/1998) paved the way for scholarly research in the area of occupational mobility and job sequences (Savickas, 2002). As career patterns crystallized from the sequences of job that workers held, research on career change emerged to better understand the motivations and experience behind changing careers. Vaitenas and Wiener (1977) categorize career change theories into two groups: vocational career theorists (Ginzberg, Ginsburg, Axelrod, & Herma, 1951; Holland, 1973; Super, 1957) attribute career change to a misfit between work and the individual, whereas adult developmental theorists (Levinson, Darrow, Klein, Levinson, & McKee, 1974; Vaillant & McArthur, 1972) attribute career change to the emergence of new motives in midlife (around age 40) which may eventually affect one's satisfaction on the job. In analyzing how these two theories apply to young (aged 35 or less) and old (over 35) career changers, Vaitenas and Wiener (1977) concluded that regardless of age, "adult career change seems to be associated with factors such as incongruity of interests with occupations, lack of consistency and differentiation in interest structure, emotional problems, and fear of failure" (p. 303). They raised the possibility that career crisis that leads to career change may be experienced before midlife. The study of career stability among adult US workers in 1970 by Gottfredson (1977) supports this claim.

Gofffredson found that while a majority of the workers stayed in the same job, young workers aged 21 to 35 not only changed the most jobs but also changed to a different career classification the most, compared to older workers. He concluded that career stability increases in age as workers attain congruity between work and personal interests and values. Feldman (2002) also supported the idea that "career switching is, in fact, inversely related to age" (p. 78); the younger you are, the more likely that you will experience career changes. He also believed that factors associated with career change vary by the career stage when the change occurred. Key factors that he believed lead to higher likelihood of an early career change are lower education attainment, less vocationally oriented education, underemployment in first jobs, and less research/career exploration activity prior to the first job.

The role of happenstance. While a career crisis has been documented to propel people to change careers, career researchers have also studied the role of chance as a critical factor in career change (Betsworth & Hansen, 1996; Bright & Pryor, 2005; Crites, 1969; Miller, 1983; Miller & Form, 1964; Super et al., 1957). In their Planned Happenstance theory, Mitchell et al. (1999) also elevated the importance of chance in one's career development. Based on the concepts that "(a) exploration generates chance opportunities for increasing quality of life, and (b) skills enable people to seize opportunities" (Mitchell et al., 1999, p. 118), they identified five important skills that must be developed in order to act and take advantage of chance in finding new career opportunities: curiosity, persistence, flexibility, optimism, and openness to risk. Since the present study focuses specifically on the last three, the following section reviews academic literature on flexibility, optimism, and openness to risk.

Flexibility. Recommendations to career counselors working with clients interested in a career change often include promoting the need for flexibility and open-mindedness (Mitchell et al., 1999; Wise & Millward, 2005): the more flexible one is, the higher likelihood of not only

finding new career opportunities, but also succeeding in a career change. But being too flexible might also have an opposite effect on career change. Hall (2004) found that individuals who are highly adaptable but possess low self-awareness are not in tuned with their evolving identity and therefore are more likely to keep changing themselves to adapt to the need of the current career, even if it may no longer match their new identity. These individuals may be applying flexibility to their current situation rather than flexibility towards seeking new opportunities.

Optimism. While the Planned Happenstance theory believes that optimism is a key ingredient in leveraging chance to find new career opportunities (Mitchell et al., 1999), other research has found optimism to be a key ingredient in staying in one's job or career. Studies by Kluemper, Little, and DeGroot (2009), Lounsbury et al. (2003), and Youssef and Luthans (2007) support the idea that optimism is positively associated with job and career satisfaction. Kluemper et al. (2009) further distinguished between trait optimism (a general feeling of optimism about the future) and state optimism (optimism during a specific situation or state) and found that state optimism is a more significant predictor of job-related outcomes: state optimistic individuals are more likely to be satisfied with their current job, stay committed to an organization, and perform better on the job.

Openness to risk. Past studies suggest that risk-taking is a necessary component of career change (Feldman, 2002; Hagcvik, 1999; Savickas, 2002). Qualitative interviews of career changers support this finding with successful career changers reporting high openness to risk. As one career changer remembered a mentor's advice, "the sweetest fruit is always on the thinnest branches" (Clarke, 2006, p. 105). Wise and Millward (2005) found similar results when they interviewed career changers who made the change in their 30s and who "regard change and risk as acceptable" and "cherish the process and outcome of change" (p. 408). Ibarra's (2003) profiles of career changers illustrated that while there were different degrees of risk a career

change may involve, the change can, and perhaps should, be gradual and experimental. As she puts it, "Leaping without a net is foolish. It is better to start by trying out a possible role on a small scale" (p. 111). Nevertheless, no matter how gradual or rapid, all career changers seem to understand and accept an element of risk in their decision.

Gaps in career change literature. Despite evidence that young workers experience more movement between jobs and careers, research on career change among young workers is lacking (Feldman, 2002). Furthermore, much research on career change has been qualitative in nature, often with small samples and/or focused on specific vocations (Cherniss, 1991; Chusid & Cochran, 1989; O'Connor & Wolfe, 1991; Oleski & Subich, 1996; Robbins, Thomas, Harvey, & Kandefer, 1978; Vaitenas & Wiener, 1977). While results of these studies have been instrumental in understanding the motivation behind and experience of changing one's career, our understanding is also limited to the sample that was observed. We have no basis for understanding career change that can be generalized to the US working population. A study of career change among young workers that uses a large sample size and that objectively analyzes the data using inferential statistics contributes to this gap in career change research.

Characteristics of Millennials

The birth years that define the millennial generation have been inconsistently reported. Some define it as starting in the late 1970s (Society for Human Resource Management, 2013; Sweeney, 2006) while others start it in early 1980s (Howe & Strauss, 2000; Pew Research Center, 2010a; PwC, 2011; Sujansky & Ferri-Reed, 2009). In this study, I define millennials as those born between 1980 and 1999. This young generation is increasingly filling the workforce as they mature to the working age. At 70 million people, the same size as the baby boomers (Pew Research Center, 2010b), millennials are expected to account for half of the global

workforce by 2020 (PwC, 2011). Despite being a young generation, millennial preferences and behavior have been analyzed in both scholarly research and popular press. While possessing positive traits such as being accepting of diversity (Paul, 2001), exploratory (Sweeney, 2006), highly self-aware (Greenberg, 2008), and high-achieving (Howe & Strauss, 2000), negative characterizations of millennials seem to be more prevalent. The following section reviews how millennials are more often portrayed.

Confidence and individualism. Twenge (2006) characterized this young group as highly confident and optimistic, believing that they can achieve any goal they set out to, even if the goal may be unrealistic based on their skills and situation. With a strong orientation towards self-fulfillment and satisfaction above all else, Twenge added that millennials are "unapologetically focused on the individual, a true Generation Me" (p. 2). Citing empirical research done by other scholars on millennials, Twenge and Campbell (2012) added that compared to previous generations, millennials demonstrated the highest tendencies in extraversion, individualistic/narcissistic traits, desire for leisure, and anxiety/depression, and the lowest in work ethic, openness to experience, social values, interest in government and social problems, and valuing the meaning/purpose of life.

In response to Twenge's (2006) characterization of millennials as narcissistic, Trzesniewski, Donnellan, and Robbins (2008) questioned the methodology of the study and its generalizability to the entire millennial population. Roberts, Edmonds, and Grijalva (2010) followed this inquiry and concluded that "every generation is a Generation Me" (p. 101) and that narcissism is a trait of all young people across generations and not unique to millennials, nor any other generation.

Protean careers. While there is disagreement among scholars about the narcissistic tendencies of millennials, there is strong evidence that millennials do not value loyalty to organizations. A survey of millennials workers around the world conducted by global consulting PricewaterhouseCoopers support these findings of decreased loyalty to employers, with the percent of millennials expecting to work for only two to five employers in their career decreasing from 74% in 2008 to 54% in 2011, and 25% expecting to work for six or more employers (PwC, 2011). Furthermore, 38% of surveyed millennials who were employed said that they were actively looking for new opportunities and 43% who were not actively looking would entertain offers. A retention study of millennials (Schawbel, 2013) supported these findings, with 45% of employers reporting high turnover among their millennial workers, with most millennials leaving their job due to a better job offer from another company. Better offers may mean a higher salary but most likely also include better work-life balance and faster opportunities for promotions (Sujansky & Ferri-Reed, 2009). Fields, Wilder, Bunch, and Newbold (2008) captured this sentiment well in their interview with millennial researcher Jean Twenge who states that "Loyalty is a quality that is very unrecognized with Generation Me…They'll keep job-hopping to try to find the job that fulfills all of their very high expectations" (p. 10). The decrease in loyalty to organizations was predicted by Hall (1996) who described the changing career contract between employers and individuals: "The career of the 21st century will be protean, a career that is driven by the person, not the organization, and that will be reinvented by the person from time to time, as the person and the environment change" (p. 8).

However, empirical research by Kowske, Rasch, and Wiley (2010) comparing work values of US employees across five generations did not support these sentiments. Unlike popular stereotypes of job-hopping as a uniquely millennial trait, they found that millennials in their sample indicated the same level of turnover intentions as their older colleagues who

belonged in earlier generations. They also found that millennials were more optimistic about their career progression at their present employers than their older colleagues.

Gap in millennial career change research. In addition to the lack of research on young professionals, most career change studies have also been limited to earlier generations: baby boomers and generation Xers (Parrado, Caner, & Wolff, 2007; Dougherty, Dreher, & Whitely, 1993; Rhodes & Doering, 1983; Almquist, Angrist, & Mickelsen, 1980). Although considered to be the most studied generation of all time (US Chamber of Commerce Foundation, 2012), research on millennials has been mostly focused on their lifestyle or consumption preferences (Faw, 2012; McCasland, 2005; Moore, 2012; Pardee, 2010), traits (Greenberg, 2008; Howe & Strauss, 2000; Paul, 2001; Twenge, 2006; Twenge & Campbell, 2012), or work values (Alsop, 2008; Kowske, et al. 2010; Pew Research Center, 2010a; PwC, 2013; Schawbel, 2013; Sujansky & Ferri-Reed, 2009). We know little about the career change patterns of this growing workforce population. With evidence showing that millennials are more aggressive in their career pursuits, a study on their career change patterns now while still early in their career is a worthwhile endeavor that will benefit not only millennials who may be considering an early career change, but also employers, educators, career counselors, and parents of millennials, all of whom are important stakeholders in the success of millennial workers.

Chapter 3: Methodology

Introduction

The purpose of this study was to explore the career change patterns of millennial US college graduates within the first five years after obtaining an undergraduate degree. In particular, I sought to discover the career areas that millennial early career changers left and entered and what traits they may have that might be able to predict their likelihood to change. To do so, this study used a quantitative analysis of an existing longitudinal survey that offered a large sample size and a rich history of work data.

Data Set

To understand the phenomenon of early career change among millennials, I used the National Longitudinal Survey of the Youth 1997 (NLSY97), a set of surveys managed by the US Department of Labor that gathers data on various life events on a set of American youth. It is a nationally representative sample of approximately 8,984 youths who were born between 1980 and 1984. Data has been gathered every year since 1997 and results up to 2010 (14 rounds) are available for download through the US Bureau of Labor Statistics website. Survey questions include data about the respondent's employment history, education and training history, household information, parental information, dating/relationship activities, income history, health background, attitudes and expectations, criminal history, and substance use.

Participants

Since careers are often influenced by education, I selected cases where respondents obtained an undergraduate degree during the survey dates, reducing the qualified cases to 1,935. Since job histories were only available until 2010, I further reduced the sample by selecting only cases where the respondent obtained an undergraduate degree between 1997 (round 1) and 2005

to offer sufficient job data five years after graduation, and I removed cases that had no job history data. These reduced the number of qualified cases to 1,000.

The racial demographics of the 1,000 respondents included in this study were as follows: 73% (731) White, 15% (148) Black, 5% (54) Hispanic (non-White and non-Black), 4% (43) Asian, 20% (20) other, and less than half a percent (4) with no race data. The sample consisted of 61% (609) women and 39% (391) men, all between the ages of 19 to 25 when they obtained their undergraduate degree and graduated between 2000 and 2005. The sample consisted mostly of Liberal Arts and Social Science (24%, 242) or Business (20%, 204) graduates. Table A10 shows the full breakdown by undergraduate major.

The focus of the present study is in the participants' work history five years after obtaining a Bachelor's degree. Since most graduations in the United States occur in the middle of the year (May or June), I also included the work history in the year of graduation. Therefore, the present study technically reviewed six years of work history data: graduation year plus five years after. For example, for someone who graduated in 2000, I reviewed the work history from 2000 to 2005.

Measures

Career change. Feldman (2002) defines a career change as "entry into a new occupation which requires fundamentally different skills, daily routines, and work environments from the present one" (p. 76). A description of how I determined if a job involved a different skill, routine, or work environment follows.

Career clusters. Every job held by the respondent was assigned a corresponding 2002 Census Occupation Code. Each code belongs to a certain occupational category. There are different classifications used by statisticians to determine which occupational category a job

belongs to, such as the Standard Occupational Classification (SOC) (Bureau of Labor Statistics, n.d. b) and the National Career Cluster Framework's Career Cluster classification (National Association of State Directors of Career Technical Education Consortium, n.d. a). For this study, I selected the career cluster classification because it is widely adopted by educational institutions as a way to help students navigate the career selection process from secondary to postsecondary education and finally to the workplace (Jankowski, Kirby, Bragg, Taylor, & Oertle, 2009). Since the purpose of this study was to analyze the career destinations of young adults right after graduation, I found the Career Cluster Framework to be a more appropriate classification. In addition, it also offered a simpler tool for analysis as it grouped job categories into 16 clusters whereas SOC contained 23 major groups. The 16 career clusters are: 1) Agriculture, Food & Natural Resources, 2) Architecture & Construction, 3) Arts, A/V Technology & Communications, 4) Business, Management & Administration, 5) Education & Training, 6) Finance, 7) Government & Public Administration, 8) Health Science, 9) Hospitality & Tourism, 10) Human Services, 11) Information Technology, 12) Law, Public Safety, Corrections & Security, 13) Manufacturing, 14) Marketing, Sales & Service, 15) Science, Technology, Engineering & Mathematics (STEM), and 16) Transportation, Distribution & Logistics.

Jobs in the NLSY97 database were recorded using the 2002 Census Occupation Code only but I used publicly available documents to find the corresponding career cluster for each code. First, I translated the Census Occupation Code to its equivalent SOC code using the "SOC to 2002 census occupation-to-occupation" document on the National Crosswalk Service Center website (n.d.). Next, I translated the SOC code I found in step one to the corresponding career cluster using the "Perkins IV Crosswalk Table 5" document from the National Association

of State Directors of Career Technical Education Consortium's website (n.d. b). This two-level translation resulted in a career cluster code for every job code in the sample.

Early career change. As this study's dependent variable, Early Career Changer was a dichotomous variable that was coded as 1 if the respondent's job changed to a new career cluster within the first five years after obtaining an undergraduate degree. If no new cluster was found in the first five years, then Early Career Changer was coded as 0 (no change). For example, a respondent whose census job code is 1100 (network and computer systems administrator) in years one and two belongs to the Information Technology cluster. If in year three the job code changed to 910 (financial specialist), which belongs to the Finance cluster, then this case's Early Career Changer was coded as 1 (changed career). While some respondents may have more than one career cluster change over the five years, this study only focused on the first occurrence of a cluster change.

The year of early career change was marked as the year when the individual stopped working in the original job code. For example, a respondent who worked as a computer analyst in years one and two and as an accountant in years two, three, and four, was marked as an early career changer in year three when the respondent completely abandoned the computer analyst career.

If a respondent worked in more than one career-oriented cluster in the same year, I selected the one that appeared again the following year as a basis for comparison. For example, someone who worked as a teacher and government interviewer in year one, an event planner and government interviewer in year two, and event planner in year three, was counted as a career change from government interviewer to event planner, not from teacher to event planner.

Exceptions. Since I only had access to job code history and no supporting narrative, I made certain assumptions in order to keep the analysis objective and consistent. The following describes exceptions to the early career change definition I provided.

Non-career-oriented codes. Since the focus of this study was careers of college graduates, I excluded job codes that are traditionally not associated as target careers for college graduates. These codes included jobs such as waiter, retail salesperson, factory worker, and security guard. Often, respondents with these job codes worked multiple jobs in these areas within the same year. My assumption was that the sample, as new college graduates, would work these jobs as a means to earn income and not to apply what they learned in college. Thus, I did not include these jobs in the career change analysis. For example, a respondent who reported working as a bartender (Hospitality and Tourism cluster) and receptionist (Business, Management, and Administration cluster) for all five years after an undergraduate degree was not considered an early career changer even if the jobs held belonged to different clusters. In this paper, I will refer to these job codes as non-career-oriented codes only as a means to distinguish them from the job codes that college graduates traditionally enter after obtaining a degree, not as a judgment or conclusion that individuals who work at these jobs are not career-oriented.

If a respondent moved from a career-oriented job code to a non-career-oriented job code belonging to a different cluster, I also did not code this as a career change. For example, a respondent who worked as a writer (Arts, A/V, Communication cluster) in years one and two and then worked as a receptionist (Business, Management & Administration cluster) for year three then editor (Arts, A/V, Communication cluster) for the rest of the years will not be coded as a career change despite the in-between job belonging to a different cluster. My assumption was that the respondent has taken the in-between non-career-oriented job for financial reasons while waiting to start the next career-oriented job, not as an attempt to change careers.

To be consistent and objective, I used the Bureau of Labor Statistic's (n.d. a) Occupation Finder to determine the level of education needed for that job. If the job required a high school diploma or less for entry, then I counted it as a non-career-oriented job and excluded it in the career change analysis. If I was not able to find the job in the Occupation Finder, I used O*NET Online's (n. d.) occupation search function, which included educational requirements for the job.

Concurrent career clusters. In this study, I was only interested in individuals who completely left a career cluster in favor of a new one. Therefore, I only counted an early career change if the respondent left the original cluster entirely. If the individual continuously worked at jobs belonging to two or more clusters at the same time without leaving the original, I did not include it as a career change.

Vertical advancements. Since career change involves a horizontal change in job function or context, I also excluded job codes that seem to be associated with a vertical promotion or further mastery into one's current field rather than the application of a new skill in a new context. I presumed that individuals stayed in the same career and simply advanced further in a higher role. For example, a computer programmer (Information Technology cluster) who became a computer/information systems manager (Business, Administration cluster) was not counted as an early career changer even if the two jobs belonged to different clusters.

Job satisfaction. The NLSY97 data asked respondents to rate their satisfaction for every job reported. The question was phrased as: "Which of the following best describes how you feel/felt about this job at this employer: 1=I like it very much, 2=I like it fairly well, 3=Think it is OK, 4=Dislike it somewhat, 5=Dislike it very much?" I treated this ordinal variable as an interval-ratio variable in order to calculate and compare means.

College major. The original coding of the undergraduate major consisted of 34 categories. To simplify the analysis, I recoded this variable by collapsing them into 8 categories:

1) Business, 2) Communication, 3) Education, 4) Technology, 5) Math, Science, & Health, 6) Psychology, 7) Liberal Arts & Social Sciences, and 8) Other.

Planned Happenstance variables. One of the objectives of the present study was to determine the association between early career change and flexibility, optimism, and openness to risk. A description of how I measured these variables follows.

Flexibility. To measure if one is flexible or not, I used the variable YSAQ-282P (R IS STUBBORN OR FLEXIBLE), which was asked as "How much do you feel that stubborn describes you as a person? Where 1 means flexible and 5 means stubborn." Originally coded as an ordinal variable from 1 to 5, I recoded it as a dichotomous variable: 1=1 to 2 (Flexible), 0=3 to 5 (Not Flexible).

Optimism. To measure if one is optimistic, I used the variable P6-002 (Uncertain Times PR Expect Best), which was asked as "In uncertain times, I expect the best." Originally coded as 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree, I recoded this ordinal variable as a dichotomous variable: 0=Strongly Disagree or Disagree (Not Optimistic), 1=Strongly Agree or Agree (Optimistic).

Openness to risk. To measure one's openness to risk, I used the variable YTEL_81_000007_2010 (RISK ASMNT MAJOR CHANGE 2010). Originally coded as an ordinal variable, this question was asked as "In making major life changes, rate your willingness to take risks from 0 to 10, where 0 means 'unwilling to take any risk' and 10 means 'fully prepared to take risks'." I recoded this variable by collapsing the 10 categories into three: Low Risk Taker = 0 to 3, Moderate Risk Taker = 4 to 6, High Risk Taker = 7 to 10.

Chapter 4: Results

This section presents descriptive statistics of the early career changers followed by results from logistic regression and crosstab analysis between early career change and the Planned Happenstance variables: flexibility, optimism, and openness to risk.

Descriptive Statistics

By reviewing the job codes of the respondents and evaluating the career clusters where they worked, the analysis revealed that 26% of the respondents (258 of 1,000) changed to a different career-oriented cluster in the first five years after obtaining an undergraduate degree. Majority of the change occurred two to three years after graduation. The breakdown of the career change period is as follows: 14% in year one, 24% in year two, 26% in year three, 15% in year four, and 21% in year five.

Demographics. Table A1 shows the similarities and differences in the demographic data between millennials who changed to a new career cluster within the first five years after obtaining an undergraduate degree and those who did not. Overall, the two groups had similar demographics in terms of mean age, gender, and race. They were also very similar in proportion of those who self-reported as being flexible (14% for both groups) and optimistic (41% for early career changers and 42% for those who did not change). The key differences were in the education of the parents, level of openness to risk, and average job satisfaction.

Parental education. A higher percentage of early career changers in the sample had parents who have completed four or more years of college education: 46% of early career changers had a father who was educated compared to 39% of those who did not change and 47% had a mother who was educated compared to 37% of those who did not change. Since education of parents was a nominal variable (1=completed four or more years of college, 0=completed less

than four years of college), the independent-samples *t*-test was an appropriate statistic to use to determine if the difference in proportions of educated parents was statistically significant between early career changers and non-early career changers (R. Fernandes, personal communication, August 21, 2013). The test did reveal that early career changers statistically had better educated parents than those who did not change careers ($p<.01$ for educated mother, $p=.01$ for educated father).

Openness to risk. Majority of respondents for both early career changers and non-early career changers reported being moderate risk takers: 42% among early career changers and 39% among those who did not change. Among early career changers, 32% reported being high risk takers ("fully prepared to take any risk") compared to 23% of those who did not change. Correspondingly, early career changers had a lower percentage of low risk takers ("unwilling to take any risks"): 19% of early career changers compared to 25% of those who did not change. Using the nominal version of each risk level (low, moderate, high), I used the independent-samples *t*-test once again to determine if the differences in proportions of low, moderate, and high risk takers were statistically significant between early career changers and those who did not change. The test revealed that the difference in proportion of moderate risk takers is not statistically significant but the difference in proportion among high risk takers and low risk takers were statistically significant ($p<.01$).

Overall job satisfaction. Computing the average satisfaction for all the jobs in the first five years after graduation revealed that both groups were satisfied with their jobs, with a mean of 2.10 for early career changers and 1.99 for those who did not (1=I like it very much, 5=I dislike it very much). Since I treated job satisfaction as an interval-ratio variable and I was comparing the means between two groups (early career changers and non-early career changers), an independent-samples *t*-test was an appropriate test to use in order to determine if the

difference in the means between the two groups was statistically significant (Healey, 2010). The *t*-test revealed that early career changers were statistically less satisfied than those who did not change (p=.01).

Since early career change occurred in different periods during the first five years, I also compared the mean of average job satisfaction for all five years for non-early career changers to the mean of average job satisfaction only for the years before the career change was made. The *t*-test revealed a similar result as the first comparison: while both groups were on average satisfied with their jobs, early career changers were statistically less satisfied with their jobs before the change (2.11) compared to non-career changers (1.99) (p=.01).

Job satisfaction before and after the change. To analyze the job satisfaction specifically for the job that was left right before pursuing a new career cluster, I compared the mean job satisfaction of the clusters that were left, which revealed that all early career changers (who had job satisfaction data) were satisfied with the jobs that they left before moving to a new career cluster, with an average job satisfaction of 2.32 ("I like it fairly well") (Table A2). To determine if the differences in average job satisfaction of the jobs left among the 16 clusters were statistically significant, I used ANOVA analysis, which is an appropriate test to use for three or more groups (Healey, 2010). Analysis showed that the differences in the mean job satisfaction of the jobs left among clusters were statistically significant (p<.01). When comparing their average job satisfaction in the periods before and after the career change, 89% did not have any change in average satisfaction rating, 4% had a one point increase in satisfaction, 3% had a one point decrease in satisfaction, half a percent had a two point increase in satisfaction, and half a percent had a two point decrease in satisfaction.

Career clusters left. By reviewing the number of respondents who left and stayed in each cluster (and excluding the clusters that mostly had non-career-oriented job codes), the data revealed that the clusters with the lowest percentage of early career changers among millennial US college graduates were Government/Public Administration, Health Science, and Finance clusters, with early career change rates of 9%, 18%, and 19% respectively (Table A3). The three clusters with the highest percentage of early career changers among millennial US college graduates were Information Technology, Arts/Audio Visual Technology/Communication, and the Science, Technology, Engineering, and Math (STEM) clusters, with early career change of 43%, 31%, and 29% respectively.

Among men, the career cluster with the highest percentage of early career changers was Education and Training with 41% of men who started in that cluster with a career-oriented job leaving it in less than five years (Table A4). The career cluster with the lowest percentage of early career changers was Finance, with 15% of men who started in it leaving it for a different cluster in less than five years. Among women, the career cluster with the highest percentage of early career changers was Information Technology with 52% of the women who started a career-oriented job in that cluster leaving it in less than five years (Table A5). The career cluster with the lowest percentage of women early career changers was Government/Public Administration, which retained all the women millennials who started their first career-oriented job in that cluster.

Career clusters entered. What types of careers did the early career changers switch to? When grouped by gender, women moved towards people-centered careers, entering the Education and Training (20%) and Human Service (16%) clusters, whereas men early career changers moved towards less people-centered clusters, entering the Finance (16%) and STEM

(15%) clusters. Table A6 shows the complete breakdown of the cluster destinations of the 258 early career changers.

With the highest early career change rate of 43% (Table A3), the Information Technology cluster lost most of its millennial college graduate workers who were still in their first five years after graduation to the Finance (10%, 7 of 67) and the Manufacturing (9%, 6 of 67) clusters (Table A7). With the second highest early career change rate of 31% (Table A3), the Arts, Audio/Visual Technology, and Communication cluster lost most of its millennial college graduate workers who were still in their first five years after graduation to the Education and Training cluster (11%, 7 of 64, Table A8). With the third largest early career change rate of 29% (Table A3), the STEM cluster lost most of its millennial college graduate workers who were still in their first five years after graduation to the Health Science cluster (10%, 5 of 48, Table A9).

College major. Comparing early career change with the respondents' undergraduate degree, the analysis revealed that the highest percent of total early career changers had a liberal arts or social science degree (25%, 65 of 258), followed by a business degree (18% 47 of 258), which also corresponds with the two largest groups of graduates in the total sample size (Table A10). In reviewing the number of early career changers within a major, the top three majors with the highest percentage of early career changers were psychology, communication, and technology, with early career change rates of 41%, 38%, and 37% respectively. The next section shows the cluster destinations of millennials who studied these top three majors.

Psychology. When compared to the number of graduates in each program, the analysis revealed that psychology had the highest percentage of early career changers, with 41% of graduates (24 of 59) switching to a new career cluster within the first five years after obtaining an undergraduate degree (Table A10). The majority of psychology graduates entered the Education/Training and Human Service clusters and over 40% of these graduates switched to a

different cluster within the first five years of their post-undergraduate degree (Table A11). The cluster that lost the most psychology millennials during their first five years post-undergraduate degree is the Business/Management/Administration cluster, with 67% of its millennial workers leaving the cluster.

Communication. The major with the second highest percent of early career changers was communication, with 38% of respondents who studied communication switching to a new career cluster in the first five years after obtaining an undergraduate degree (Table A10). The two clusters that attracted the highest number of communication millennial graduates as the first career-oriented cluster are Communication and Education/Training, with 22% of the Communication graduates starting at these clusters (Table A12). But unlike the Communication cluster, which retained 79% of the communication graduates who entered it, the Education/Training cluster retained only 50%.

Technology. The third major with the highest percent of early career changers was technology, with 37% of its millennial graduates switching to a new career cluster within the first five years after obtaining an undergraduate degree (Table A10). A majority of the technology graduates entered the Information Technology (31%) and STEM clusters (19%) and mostly stayed in these clusters (Table A13). The 29 technology graduates who changed careers early entered different clusters but the one with the most entry is STEM, attracting 12% of them.

While outside the scope of this study, it is important to note that only 40% (8 of 20) female technology graduates entered the Information Technology or STEM clusters for their first career-oriented cluster, two of whom left within the first five years after graduation, while another two switched to the Information Technology cluster after starting in a different cluster.

Inferential Statistics

I used correlation analysis and binary logistic regression to test the strength and significance of the association between early career change (dependent variable) and the three hypothesis (independent) variables: flexibility, optimism, and openness to risk.

Correlation analysis. Since the independent variables were not continuous variables, Spearman's rank order correlation analysis was an appropriate test to use (Healey, 2010) to see if early career change, flexibility, optimism, and openness to risk are correlated with each other. Spearman's *rho* value ranges from -1 to 1 and measures the strength of association between two variable: a value of 0 denotes no association, 0 to +/-0.30 a weak association, +/-0.31 to +/- 0.60 a moderately strong association, and +/-0.61 to +/- 1.0 a very strong association (Healey, 2010). The correlation analysis (Table A14) revealed that only openness to risk had a significant correlation with early career change ($p<.01$), but with a low coefficient of .10, the association was very weak. The correlation analysis also revealed that there was no association among the planned happenstance variables.

To further explore the association between openness to risk and early career change, I ran a cross tabulation analysis between the year that career change occurred as an ordinal variable (non-career changers were marked as over 5 years) and the attitude towards risk as an ordinal variable to determine the significance and strength of the association using the Goodman and Kruskal's *gamma* statistic, an accepted measure of association between ordinal variables (Healey, 2010). *Gamma* is a Proportion Reduction Error (PRE) measure, which means it measures by how much we can reduce the error of our prediction of one variable, based on what we know about the other variable. PRE values range from -1 to 1. A *gamma* of 0 denotes no association, which means the two variables are completely independent and we cannot predict one variable

based on the other. A *gamma* of 0 to +/-0.30 is considered a weak association, +/-0.31 to +/-0.60 a moderately strong association, and +/-0.61 to +/- 1.0 a very strong association. A *gamma* of +/-1 denotes a perfect association, which means we can predict 100% of the time the result of one variable based on what we know of the other (Healey, 2010).

Results of the crosstab analysis revealed that overall, openness to risk and early career change had a significant ($p < .01$) but weak association (*gamma*= -.15) (Table A15). When gender and race were included in the analysis, the *gamma* statistic suggests a significant (p=.02) but weak association (*gamma*= -.24) between openness to risk and early career change among White males, and a significant (p=.02) and strong association (*gamma*= -.53) among Hispanics regardless of gender. Since the career change period was coded in this analysis as ordinal, the negative coefficient denotes that the less open to risk one is, the longer one stays in the original career cluster entered within the first five years after graduation.

Logistic regression. To test if the Planned Happenstance theory variables can help predict the likelihood that a millennial US college graduate will change to a new career cluster within five years after obtaining an undergraduate degree, I ran a binary logistic regression using early career changer as the dependent variable (coded as a dichotomous variable: 1=changed to a new career cluster within the first five years after obtaining an undergraduate degree, 0=did not) and flexibility, optimism, openness to risk, gender, and race as the independent variables (all coded as dichotomous variables). Results of the logistic regression (Table A16) support the results of the correlation analysis that the only variable with an association with early career change (when controlling for the other factors) was openness to risk; the regression revealed that more specifically, low risk takers are statistically less likely to change careers early. When taking all the variables into consideration in the model, the regression analysis did not suggest any relationship between early career change and race and gender.

Flexibility. The odds ratio of 0.83 suggests that compared to millennial college graduates who report being inflexible in their approach, flexible millennials are 0.83 times less likely to change to a different career cluster early in their career, although the estimate is not statistically significant ($p > 0.05$).

Optimism. The odds ratio of 0.93 suggests that compared to millennial college graduates who report being pessimistic in their approach, optimistic millennials are 0.93 times less likely to change to a different career cluster early in their career, although the estimate is not statistically significant ($p > 0.05$).

Openness to risk. The odds ratio of 1.12 for high risk takers suggests that compared to millennial college graduates who report being moderate risk takers, high risk takers are 1.12 times more likely to change to a different career cluster early in their career, although the estimate is not statistically significant ($p > 0.05$). The odds ratio of 0.59 for low risk takers suggests that compared to moderate risk-takers, low risk takers are 0.59 times less likely to change career clusters in their career and the estimate is statistically significant ($p < .05$).

Chapter 5: Discussion

The purpose of this study was to analyze the career change pattern of millennial US college graduates particularly during the first five years after obtaining their undergraduate degree. This section explores the findings on the similarities and differences between those who left a career cluster early in their career in favor of a different one and those who stayed.

Demographics

With evidence of job-hopping and characterizations of impatience and individualism (PwC, 2013; Schawbel, 2013; Sujansky & Ferri-Reed, 2009; Twenge & Campbell, 2012), I expected early career change among millennials to occur frequently. Instead, my findings suggest that while switching jobs may be a common occurrence among millennials, changing to a new career cluster was not, at least no more than young professionals in previous generations. Overall, 26% of millennial US college graduates completed an early career change: 29% among men and 26% among women (Tables A3, A4, and A5). These results resemble the 25% early career change rate among men and 28% early career change rate among women that Gottfredson (1977) discovered when he studied career stability among young baby boomers. The 26% early career change rate among women millennials is also significantly lower than the early career change rate of 54% that Almquist et al. (1980) found in their study of women baby boomers.

While outside the focus of this study, it was interesting to note that early career changers had a higher proportion of educated parents than those who did not (Table A1). Since college education is positively associated with income (Bureau of Labor Statistics, 2013), this finding supports Feldman's (2002) proposition that the greater the income of a young worker's parents, the more likely the individual will change career early, as parents may act as financial safety nets for young career changers during the transition.

Job satisfaction. Unlike the conventional expectation that dissatisfaction is a major motivator in career change (Ginzberg et al., 1951; Holland, 1973; Super, 1957), millennial early career changers were generally satisfied with the career that they were leaving (Table A2), which suggests that external factors (outside of person-work congruity) may have influenced the decision to change. It is also interesting to note that while both early career changers and non-career changers were generally satisfied with their jobs over the first five years after graduation, majority of the early career changers did not experience any difference in satisfaction after the change. In fact, on average, they were slightly less satisfied than those who stayed. One possibility may be the challenge of starting in a new field and the ramp-up required to get comfortable in a new cluster. Along with starting a new job and a new field, early career changers have the additional "newcomer adjustment" challenge of transitioning at a young age (Klemme Larson & Bell, 2013). Future studies may want to investigate this finding to determine if job satisfaction continues to drop as the career changer progresses in the cluster or if it will reverse and increase in later stages.

Career Clusters

Findings on the career cluster selections of millennial early career changers were insightful to review by gender as men and women early career changers seem to move in opposite directions. The Information Technology cluster lost more than half of the women who started in that cluster (Table A5) and the Education and Training cluster attracted the most women early career changer (Table A6). On the opposite end, the Education and Training cluster lost the highest percentage of men early career changers (Table A4) and the Finance cluster attracted the most (Table A6). These results support the idea that certain careers still continue to attract one gender more than the other. Education and Training is deemed as a non-

traditional career for men with only 25% or less of its workers male. Conversely, Information Technology is deemed as a non-traditional career for women with only 25% or less of its workers female (iSeek Careers, n.d.). The public, private, and nonprofit sectors have all contributed efforts and resources to increase these percentages and make career paths more gender neutral by increasing the exposure of young adults to careers historically dominated by the opposite gender (Her Own Words, n.d.; Hansen, n.d., Ross et al., 2012; Office of Science and Technology Policy, n.d.). Studies have shown that the presence of role models who break the stereotypes on gender-specific careers do play an important role in exposing young adults to non-traditional careers and building their confidence that they too could succeed in those environments (Bona, Kelly, & Jung, 2010; Demaiter & Adams, 2009; Chmelynski, 2006; Chusmir, 1990).

While getting young adults to enter nontraditional careers is critical in increasing diversity in the workplace, it is only one part of the equation: once young adults enter nontraditional roles, how do we keep them there? In studying the experiences of women professionals in technology, Demaiter and Adams (2009) found that despite the growing number of women in technology, the industry still equated competency with masculinity, with some women being perceived as not tough enough. Such negative stereotypes could pose as large barriers to women wanting to advance into leadership roles (Heilman, 2001). In comparing perceptions of male and female elementary teachers, Wood (2011) found that male teachers were perceived more negatively than their female colleagues, with some being perceived as too easy on their students and not nurturing enough. Income may also pose as a factor in retention of men in nontraditional careers. As Simpson (2005) found, although pay by itself was not a high priority among men in nontraditional careers, "a desire to climb the pay scales as quickly as possible was a motivating factor behind career progression goals for some men" (p. 370). The

2010 median salary for teachers falls in the $35,000 to $55,000 range whereas the median salary for finance professionals falls in the $55,000 - $75,000 range (Bureau of Labor Statistics, n.d. a). Could this be enough motivation for someone to leave a job that they "like fairly well?"

While the present study was unable to determine if any of the above reasons have led to the early career changers in the sample, past studies offer insights into possible reasons for the low retention rates in nontraditional careers. Whatever the reason may be, what is evident is that we are still far from achieving gender-neutral careers. Our efforts must go beyond attracting young adults to non-traditional careers and, perhaps more importantly, move towards retaining them in those careers. Otherwise, these clusters will most likely continue to lose their young workers and remain gender-specific.

College Major

In understanding career change based on one's educational focus, researchers have speculated that the more vocational-oriented one's areas of study, the less likely one will change careers (Feldman, 2002; Markey & Parks, 1989). Results from the present study only partly support this proposition. While the major with the highest percent of early career changers was psychology, a major classified as academic and non-career-oriented by the National Center for Education Statistics (Choy, Bradburn, & Carroll, 2008), the next two top areas with a high percent of early career changers were communication and technology (Table A10), majors that are considered career-oriented.

It is important to note that the present study was only able to analyze career change based on clusters that respondents entered and left, irrespective of the career alignment with their major. It is possible that psychology graduates who changed careers early were doing so because they started in a career not related to their area of study and the career change was a move towards a

psychology-related area and not necessarily away from it. The same may be true for communication and technology early career changers. A survey of college graduates from the classes of 2006 to 2011 revealed that the first job after graduation of 35% of respondents did not relate to their major (Stone, Van Horn, & Zukin, 2012). Since the NLSY97 survey does not provide this data, I was unable to assess if the early career changers in this study fell in this category.

Planned Happenstance Variables

The analysis of the work history captured through the NLSY97 longitudinal survey suggests that characteristics that are typically associated with openness to new career opportunities according to the Planned Happenstance theory (Mitchell et al., 1999) do not necessarily predict early career change among millennial US college graduates. Instead, results suggest that flexibility and optimism have no significant association with early career change. In general, openness to risk has a statistically significant association with early career change, but a strong association only among Hispanics.

Flexibility and early career change. Based on the Planned Happenstance theory's assumptions that flexible people are more likely to find new career opportunities (Mitchell et al., 1999), I expected flexibility to have a positive association with early career change (Hypothesis 1). While not statistically significant, the regression analysis suggests that there is a negative association between flexibility and early career change among millennial college graduates: the more flexible they are the less likely they are to change careers early. One possible explanation is that flexible individuals might be more willing to compromise and adjust to their current situation rather than abandon it. In discussing protean careers and taking ownership of one's career progression, Hall (2004) found that individuals who are highly adaptable but possess low

self-awareness are not in tuned with their evolving identity and therefore are more likely to keep adapting themselves to the current career even if it may no longer match their new identity.

Another possible explanation is that flexible individuals may have been more open to exploring and testing possible careers before college graduation and therefore may likely have found careers that they preferred to stay at for the first five years after graduation. As Rottinghaus, Day, and Borgen (2005) discovered in their study of college students, "Optimistic and adaptable people appear to strive higher academically, report greater comfort with their educational and career-related plans, and engage in activities that advance their level of career insight" (p. 20). It should be noted that the variable measuring flexibility in the NLSY97 data was limited to a 1 to 5 self-perception scale, which was eventually coded to a dichotomous variable. Future research that explores additional measures of flexibility might offer a more complete and accurate measure of one's flexibility that can be used in a regression test.

Optimism and early career change. Similar to the result on flexibility, the study also did not support the expectation that optimistic individuals are more likely to change careers early (Hypothesis 2). While not statistically significant, the regression analysis also suggests that there is a negative association between optimism and early career change among millennial college graduates: the more optimistic they are, the less likely they are to change careers early. One possible explanation is that their optimism might be more applied towards the success of continuing their current career trajectory rather than towards the prospect of a different career path. This supports findings by Kluemper et al., (2009), Kowske et al., (2010), Lounsbury et al. (2003), and Youssef and Luthans (2007) that optimism has a positive association with performance, job satisfaction, and work happiness. Perhaps optimistic individuals are optimistic that their current career situation will continue to be good or get better and leaving the cluster is therefore deemed unnecessary and/or a worse career strategy.

As previously noted in the discussion on flexibility, another possible explanation is that optimistic individuals may have been more likely to explore and test careers before college graduation and therefore may likely have found careers that they preferred to stay at for the first five years after graduation (Rottinghaus et al., 2005). And, similar to the flexibility variable, it is important to note that the optimism variable was a dichotomous variable asking if the respondent was optimistic or not during uncertain times. Future research that includes additional measures of optimism (such as hypothetical scenarios and past behavior) might offer a more accurate picture of one's optimism that can be used in a regression test. In line with the suggestions of Kluemper et al. (2009), future explorations of risk should also distinguish between trait optimism ("I'm always optimistic") and state optimism ("Currently, I am optimistic about my future.") (p. 218).

Risk taking and early career change. Unlike the results on flexibility and optimism, the results of the study supported the expectation that openness to risk has a positive association with early career change (Hypothesis 3). The findings suggest a moderately strong positive and significant association between openness to risk and early career change particularly among Hispanics (non-White and non-Black). For a possible explanation, I turn to career counseling research on Hispanics.

In a literature review on this topic, Arbona and Novy (1990) concluded that while college educated Hispanics have similar career aspiration as White Americans, they also expect more barriers than their Anglo peers in accessing more demanding jobs. They also cited research by Hawkes, Guagnano, Acredolo, and Helmick (1984), which suggests that Hispanics value occupational status over income when evaluating job satisfaction. Findings from these studies could offer one explanation for the strong association between openness to risk and early career change among Hispanic millennial college graduates that the present study found. Perhaps

Hispanic millennials who have a low tolerance for risk are more conscious of building occupational tenure early in their career, believing that they are apt to encounter more career barriers in life. As described by Markey and Parks (1989), "the more time spent in a given field, the more opportunity a worker has to increase his or her stock of occupation- or firm-specific human capital" (p. 6). By staying in their first chosen career, low risk takers may believe that they are increasing their chance to achieve occupational status. But is this unique among Hispanics? The 1989 National Career Development Quarterly (NCDA) survey of over 139 million working American adults might shed some light. Results of the survey revealed that "Hispanics (63%) were significantly more likely than African Americans (50%) and Asian-Pacific Islanders (47%) to anticipate staying with their current employers, but they were not significantly different from their White counterparts (57%) in this regard" (Brown & Minor, 1991, p. 5). The NCDA survey result aligns with the finding from the present study that the association between openness to risk and early career change is statistically significant among Whites and Hispanics only.

It is important to note that the risk taking variable used from the NLSY 97 data for the present study was a self-perception of one's willingness to take risks related to a major change. It was a 10-point scale that was recoded to a 3-category ordinal variable (low, moderate, high). Future research should consider other measures of risk taking such as past behavior or hypothetical scenarios to get an even more accurate picture of one's openness to risk.

Limitations

Due to its large sample size, longitudinal design, and the rich data available, NLSY is utilized by many scholars in social science research (NORC at the University of Chicago, n.d.). As a representative sample of American millennials born between 1980 and 1984, the NLSY97 is an excellent source of quantitative data for the study of early career change among today's young workers, offering access to job history data for a long period of time for a large sample size that would have been difficult, costly, and time-consuming to gather. The disadvantage to using this existing data, however, is that the survey itself was not designed to analyze career change and therefore has missing information that could have contributed to a more robust analysis.

No reliable measure of career and education alignment. The NLSY97 survey did not collect information on the alignment between the respondent's college major and jobs worked. While one may argue that a major applies to a career path, another may easily argue the opposite. Since there is no standard that can be used, the present study did not include major to job alignment in the career change analysis and focused only the career cluster that they entered. This gap presents an important opportunity for future exploration.

Focus only on career-oriented clusters. Since the study focuses on career patterns of college students, I only analyzed the job codes that traditionally require an education beyond a high school diploma as noted by the Bureau of Labor Statistics (n.d. a). The study, therefore, ignored career change patterns among those who may have chosen to pursue a career in what I defined as non-career oriented careers (e.g., food service, retail, manufacturing, general administration, etc.). Readers interested in career change pattern across all jobs will need to

change the coding rules that were used in this study and will get a very different (and most likely higher) early career change rate.

Multiple jobs. Many respondents worked multiple jobs in the first five years after graduation. Because there was no narrative to the job codes, I could not always identify which job was a primary job. To remain consistent and objective, I applied the same rule for all jobs, which may not have always been accurate. For example, if a respondent worked two jobs from different clusters at the same time for a number of years, then I chose the job that appeared the longest as the primary job. If the respondent worked both jobs for the same amount of time, then I chose the job that was listed first. Although these instances were rare, these coding rules were arbitrary and may not always be correct.

Limited measurement of independent variables. This study only used the value of one measure for each key independent variable in this study (flexibility, optimism during uncertain times, openness to risk during a major change), all of which were self-perception ratings. How accurate are these self-ratings? Zanna, Olson, and Fazio (1981) argued that one's attitude could more strongly predict future behavior only when the attitude is inferred from a past behavior and the respondent has had the benefit of reflecting on the past behavior before answering the self-perception; otherwise one would simply be guessing one's attitude. Respondents in the NLSY97 survey were not given a chance to reflect on specific past behaviors before offering self-ratings on flexibility, optimism, and openness to risk). The accuracy of the self-ratings poses as a limitation to this study.

No data on voluntary or involuntary career change. Since I only analyzed the job codes, this study did not differentiate between voluntary and involuntary career change. It is possible that some early career changers were switching to a new career cluster involuntarily because they were unable to find or move to a better job within their original cluster. Readers of

this study should therefore not conclude that the early career changers in this study were all voluntary.

Chapter 6: Conclusion

My aim in this study was to contribute to the literature on the early career patterns of millennial US college graduates. With millennials characterized as highly optimistic, more extraverted (Twenge, 2006), exploratory learners (Sweeney, 2006), job-hoppers (Schawbel, 2013), and demanding of rapid career progression (Ng et al., 2010; PwC, 2011; Twenge & Campbell, 2012) than previous generations, they seem to be prime candidates for early career change. However, my findings suggest that while millennials have been documented to have low loyalty to employers (or to a specific job at an employer) (PwC, 2013; Schawbel, 2013; Sujansky & Ferri-Reed, 2009; Twenge & Campbell, 2012), millennials in general are loyal to their career path selection and maintain consistency early in their career. Their characterization as impatient and habitual job-hoppers did not transfer to their career cluster decisions, at least no more than young professionals in previous generations.

Analysis of the career clusters that millennial early changers left and entered provides evidence that despite increases in diversity in the workplace, millennials in non-traditional careers for their gender will have a higher likelihood of changing towards a career that is more traditional. This offers a good starting point for future exploration of gender in the workplace, particularly on industry retention among millennials.

Results from the study also suggest that neither their optimism nor flexibility can predict the likelihood of an early career change among millennial US college graduates; it is their attitude to risk that seems to have a significant influence on early career change, particularly among Hispanic (non-White and non-Black) millennials. With more Hispanics pursuing a college education (Fry, 2011; National Center for Education Statistics, n.d.) and entering career-oriented clusters, career counselors working with young Hispanic professionals entertaining an

early career change may want to factor in attitude towards risk in their conversations as it could present as an important catalyst as well as barrier to implementing the change, more so than flexibility and optimism.

Career change is a complex phenomenon that cannot easily be summed in one analysis. My findings offer only one lens into understanding the career change patterns of millennials that has not been previously investigated. It is my hope that this research will stimulate further conversations among career counselors, employers, and scholars interested in the career development and experiences of millennials.

Suggestions for Future Research

Concurrent careers. The present study counted a career change only if the respondent completely left the original career cluster. While reviewing the job history, I found a number of respondents who entered a different career cluster but continued to work in the original career cluster at the same time. This approach would appeal to risk averse individuals who might have an interest in "testing the waters" without completely abandoning the safety of the original career. The present study did not include this group of concurrent career "experimenters" and should be further considered in future research of early career change and the role of risk in one's decision to make the leap.

Alignment between college major and career. The present study was not able to include an analysis of the alignment between one's college major and career destination due to the limited variables in the NLSY97 data. It is possible that areas that had a high percent of early career changers did so to be better aligned with their initial career selection and not necessarily to move away from it. This study was not able to distinguish between these two groups. Future

research that explores career congruity with the initial college major selection will contribute valuable information as young millennials explore their career options.

Career retraction. Is leaving a career in the first five years premature? The present study only analyzed the first career cluster change. Future research could focus on the group of early career changers who eventually returned to the original career cluster. Why did they return? What expectations did they have of the new cluster that were not met? Was there anything they could have done before the switch that would have altered their retention in the new cluster or perhaps changed their decision to switch in the first place?

Career hopping. Future research can also look into millennial early career changers who continue to switch to different clusters later in life, whether due to dissatisfaction with the new career or to recurring interest in pursuing new adventures. Once one makes the switch and demystifies the career change process, does it make it seem easier and less risky to keep switching to new careers? The role of chance and planned happenstance may be a good theory to test for this group.

Influence of race. The present study suggests that the early career change behavior of Hispanics in particular is more strongly influenced by their attitude towards risk. Future research could look further into other factors that affect this association. What factors unique to Hispanics influence their willingness to take risks, particularly in relation to their career decision? Are there differences between generations: is there also an association between risk taking and early career change among Hispanic generation Xers and baby boomers or is this unique to Hispanic millennials?

Motivation. The present study did not explore the motivation behind the decision to change careers early. In his study of midlife career changers, Thomas (1980) offered a 2x2 typology of career changers based on the association between the pressure from the environment

and the pressure from self to change: "Drift-outs (low pressure from self, low pressure from environment), Force-outs (low pressure from self, high pressure from environment), Opt-outs (high pressure from self, low pressure from environment), and Bow-outs (high pressure from self, high pressure from environment)" (p. 178). Do millennial early career changers fit into this typology that Thomas used to describe mid-life career changers? Although based on a small sample of 73 people, respondents in Thomas' sample of career changers were mostly Force-outs. Is there a quadrant where early career changers fall?

Millennial career patterns in mid- and late career stages. If we are to follow past studies on career change that suggest career congruity and stability increase in age (Feldman, 2002; Gottfredson, 1977; Super, 1957), perhaps the concerns of employers on the problem of retaining millennials (PwC, 2011; Schawbel, 2013; Sujansky & Ferri-Reed, 2009) are valid only because of the young age of millennial workers and not necessarily due to their generation. Future research that explores if their job mobility as well as career change behavior carries on to later stages in life will offer valuable insights on what's unique, if any, to millennial career mobility.

Five qualities in Planned Happenstance theory. Due to the limitation of variables available in the NLSY97, the present study was only able to analyze three of the five qualities described in the Planned Happenstance theory: flexibility, optimism, and risk taking. Future research could look at data that includes the other two qualities: curiosity and persistence. In addition, more robust measures of flexibility, optimism, and risk taking that go beyond self-perception scales could offer an even more accurate indication if one possesses these qualities.

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Appendix

Table A1

Demographic Data of Early Career Changers Compared to Those Who Stayed in the Same Career Among Millennial US College Graduates

	Stayed in same career cluster in first 5 years (*n*=742)	Changed to a different career cluster in first 5 years (*n*=258)
Age obtained undergrad degree (mean)	22	22
Female	61%	61%
Father completed 4+ years of college**	39%	46%
Mother completed 4+ years of college**	37%	47%
Race		
White	75%	67%
Black	14%	17%
Asian	4%	6%
Hispanic (Non-White, Non-Black)	5%	6%
Other	2%	3%
Average job satisfaction for first 5 years after graduation* (1=Like it very much, 5=Dislike it very much; mean of avgs)	1.99	2.10
Flexible	14%	14%
Optimistic during uncertain times	42%	41%
Openness to risk		
Low**	25%	19%
Moderate	39%	42%
High**	23%	32%

Notes: *Independent-samples *t*-test revealed that the difference in the mean of average job satisfaction for the first five years between the two groups is statistically significant ($p<0.05$). **Independent-samples *t*-test revealed that the differences in proportion of these variables between the two groups are statistically significant ($p<=.01$). Risk taker percentages do not add to 100 due to cases with missing values.

Table A2

Satisfaction with Jobs Left Before Entering a New Career Cluster

Cluster	*n*	Mean Satisfaction with Job Left (1=Like it very much, 5=Dislike it very much)*
Marketing, Sales	7	3.14
Architecture, Construction	2	3.00
Info Tech	25	2.88
Finance	15	2.87
Business, Mgt, Admin	24	2.75
Manufacturing	11	2.45
Law, Security	12	2.42
Human Service	18	2.39
Arts, AV, Communication	16	2.19
Education, Training	65	2.00
Health Science	13	1.85
STEM	13	1.85
Agr, Food, Natural Res	3	1.00
Govt, Public Admin	1	1.00
Hospitality, Tourism	2	1.00
TOTAL	227	2.32

Notes: Total N is less than total early career changers of 258 due to missing job satisfaction data among 31 respondents. **ANOVA* analysis revealed that the differences in the mean job satisfaction across the clusters left were statistically significant ($p<.01$).

Table A3

Career Clusters of Millennial US in First Five Years After Undergraduate Degree

Cluster	Total who started here	Total who left	Total who stayed	Retention rate	Early career change rate	Samples jobs
Info Tech	67	29	38	57%	43%	programmer, database admin, network admin, system analyst
Arts, AV, Communication	64	20	44	69%	31%	artist, graphic designer, producer, announcer, editor, writer, media worker
STEM	48	14	34	71%	29%	engineer, statistician, biological scientist, chemist, geographer
Education, Training	264	72	192	73%	27%	teacher, archivist, librarian, edu admin, interpreter
Human Service	82	22	60	73%	27%	community service mgr, psychologist, counselor, social worker, clergy
Business, Mgt, Admin	106	28	78	74%	26%	info systems mgr, HR mgr, management analyst, meeting planner, training specialist
Finance	79	15	64	81%	19%	accountant, financial mgr, credit analyst, actuaries, insurance underwriter
Health Science	71	13	58	82%	18%	pharmacist, dietitian, physician asst, biomed eng, nurse
Govt, Public Admin	11	1	10	91%	9%	tax examiner, urban planner, legislator, occupational health & safety tech
Transpo, Distrib, Logistics	*9*	*0*	*9*	*100%†*	*0%†*	
Hospitality, Tourism	*30*	*2*	*28*	*93%†*	*7%†*	
Architecture, Construction	*22*	*2*	*20*	*91%†*	*9%†*	
Marketing, Sales	*71*	*10*	*61*	*86%†*	*14%†*	
Law, Security	*40*	*13*	*27*	*68%†*	*33%†*	
Agr, Food, Natural Res	*11*	*4*	*7*	*64%†*	*36%†*	
Manufacturing	*25*	*13*	*12*	*48%†*	*52%†*	
TOTAL	1000	258	742	74%	26%	

†Job codes under these clusters were mostly coded as non-career oriented job codes and therefore not always included in the career change comparisons. Retention and Early Career Change Rates in these clusters should not be used for comparison.

Table A4

Career Clusters Left by Men Early Career Changers

Cluster	Total men who started here	Total who left	Total who stayed	Retention rate among men	Early career change rate among men
Education, Training	79	32	47	59%	41%
Info Tech	46	18	28	61%	39%
Arts, AV, Communication	20	6	14	70%	30%
Health Science	20	6	14	70%	30%
STEM	29	7	22	76%	24%
Human Service	25	6	19	76%	24%
Business, Mgt, Admin	29	5	24	83%	17%
Govt, Public Admin	6	1	5	83%	17%
Finance	34	5	29	85%	15%
Transpo, Distrib, Logistics	*9*	*0*	*9*	*100%†*	*0%†*
Marketing, Sales	*26*	*1*	*25*	*96%†*	*4%†*
Architecture, Construction	*18*	*1*	*17*	*94%†*	*6%†*
Hospitality, Tourism	*14*	*1*	*13*	*93%†*	*7%†*
Law, Security	*17*	*3*	*14*	*82%†*	*18%†*
Agr, Food, Natural Res	*5*	*1*	*4*	*80%†*	*20%†*
Manufacturing	*14*	*7*	*7*	*50%†*	*50%†*
TOTAL	297	86	211	71%	29%

†Job codes under these clusters were mostly coded as non-career oriented job codes and therefore not always included in the career change comparisons. Retention and Early Career Change Rates in these clusters should not be used for comparison.

Table A5

Career Clusters Left by Women Early Career Changers

Cluster	Total women who started here	Total who left	Total who stayed	Retention rate among women	Early career change rate among women
Info Tech	21	11	10	48%	52%
STEM	19	7	12	63%	37%
Arts, AV, Communication	44	14	30	68%	32%
Business, Mgt, Admin	77	23	54	70%	30%
Human Service	57	16	41	72%	28%
Finance	45	10	35	78%	22%
Education, Training	185	40	145	78%	22%
Health Science	51	7	44	86%	14%
Govt, Public Admin	5	0	5	100%	0%
Hospitality, Tourism	*16*	*1*	*15*	*94%†*	*6%†*
Marketing, Sales	*45*	*9*	*36*	*80%†*	*20%†*
Architecture, Construction	*4*	*1*	*3*	*75%†*	*25%†*
Law, Security	*23*	*10*	*13*	*57%†*	*43%†*
Agr, Food, Natural Res	*6*	*3*	*3*	*50%†*	*50%†*
Manufacturing	*11*	*6*	*5*	*45%†*	*55%†*
Transpo, Distrib, Logistics	*0*	*0*	*0*	*n/a*	*n/a*
TOTAL	598	158	451	74%	26%

†Job codes under these clusters were mostly coded as non-career oriented job codes and therefore not always included in the career change comparisons. Retention and Early Career Change Rates in these clusters should not be used for comparison.

Table A6

Career Clusters Entered by the 258 Early Career Changers

Cluster	Total career changers who entered this cluster	% of Total early career changers	Men	% of men early career changers who entered	Women	% of women early career changers who entered
Education, Training	44	17%	13	13%	31	20%
Finance	32	12%	16	16%	16	10%
Human Service	31	12%	5	5%	26	16%
Law, Security	26	10%	10	10%	16	10%
Health Science	24	9%	5	5%	19	12%
STEM	23	9%	15	15%	8	5%
Business, Mgt, Admin	18	7%	10	10%	8	5%
Info Tech	16	6%	9	9%	7	4%
Arts, AV, Communication	13	5%	3	3%	10	6%
Marketing, Sales	13	5%	2	2%	11	7%
Manufacturing	9	3%	6	6%	3	2%
Architecture, Construction	4	2%	4	4%	0	0%
Agriculture, Food, Natural Resource	3	1%	1	1%	2	1%
Govt, Public Admin	2	1%	1	1%	1	1%
TOTAL	258	100%	100	100%	158	100%

Table A7

Next Career-Oriented Cluster of Millennial US College Graduates Who Entered the Information Technology Cluster as the First Career-Oriented Career

Cluster	*n*	Percent
Stayed in Information Tech	38	57%
Finance	7	10%
Manufacturing	6	9%
Law, Security	5	7%
Education, Training	3	4%
Arts, AV, Communication	2	3%
Business, Mgt, Admin	2	3%
Human Service	2	3%
Marketing, Sales	1	1%
STEM	1	1%
TOTAL	67	100%

Table A8

Next Career-Oriented Cluster of Millennial US College Graduates Who Entered the Arts, Audio/Visual Technology, and Communication Cluster as the First Career-Oriented Career

Cluster	*n*	Percent
Stayed in Arts, AV, Communication	44	69%
Education, Training	7	11%
Info Tech	4	6%
Business, Mgt, Admin	2	3%
STEM	2	3%
Architecture, Construction	1	2%
Finance	1	2%
Health Science	1	2%
Human Service	1	2%
Marketing, Sales	1	2%
TOTAL	64	100%

Table A9

Next Career-Oriented Cluster of Millennial US College Graduates Who Entered the STEM Cluster as the First Career-Oriented Career

Cluster	*n*	Percent
Stayed in STEM	34	71%
Health Science	5	10%
Education, Training	3	6%
Arts, AV, Communication	2	4%
Business, Mgt, Admin	2	4%
Info Tech	2	4%
TOTAL	48	100%

Table A10

College Major of Millennial US College Graduates in the Sample

Undergrad Major	Total with this degree	Total who changed career in first 5 years after undergrad degree	% among early career changers	Early Career Change Rate Within the Major
Psychology	59	24	9%	41%
Communication	63	24	9%	38%
Technology	78	29	11%	37%
Math, Science, Health	124	41	16%	33%
Liberal Arts, Social Science	242	65	25%	27%
Business	204	47	18%	23%
Other/Unknown	153	23	9%	15%
Education	77	5	2%	6%
TOTAL	1000	258	100%	26%

Table A11

Career-Oriented Clusters in the First Five Years After Undergraduate Degree of Millennial US College Graduates who Studied Psychology

Cluster	*n* Psychology grads who entered this cluster	% Psychology grads who entered this cluster	*n* Psychology grads who left this cluster	Early Career Change Rate	*n* Psychology grads who switched to this cluster	% Psychology grads who switched to this cluster
Business, Mgt, Admin	6	10%	4	67%	0	0%
Education, Training	18	31%	8	44%	5	8%
Health Science	7	12%	3	43%	6	10%
Human Service	17	29%	7	41%	9	15%
Marketing, Sales	3	5%	1	33%	1	2%
Law, Security	4	7%	1	25%	1	2%
STEM	2	3%	0	0%	0	0%
Finance	1	2%	0	0%	2	3%
Hospitality, Tourism	1	2%	0	0%	0	0%
TOTAL	59	100%	24	41%	24	41%

Table A12

Career-Oriented Clusters in the First Five Years After Undergraduate Degree of Millennial US College Graduates who Studied Communication

Cluster	*n* CMN grads who entered this cluster	% CMN grads who entered this cluster	*n* CMN grads who left this cluster	Early Career Change Rate	*n* CMN grads who switched to this cluster	% CMN grads who switched to this cluster
Human Service	3	5%	2	67%	4	6%
Info Tech	7	11%	4	57%	1	2%
Business, Mgt, Admin	9	14%	5	56%	0	0%
Education, Training	14	22%	7	50%	7	11%
Marketing, Sales	12	19%	3	25%	1	2%
Arts, AV, Communication	14	22%	3	21%	2	3%
Architecture, Construction	1	2%	0	0%	1	2%
Hospitality, Tourism	1	2%	0	0%	0	0%
Law, Security	1	2%	0	0%	2	3%
Transpo, Distrib, Logistics	1	2%	0	0%	0	0%
Finance	0	0%	0	n/a	2	3%
Health Science	0	0%	0	n/a	2	3%
Manufacturing	0	0%	0	n/a	1	2%
STEM	0	0%	0	n/a	1	2%
TOTAL	63	100%	24	38%	24	38%

Table A13

Career-Oriented Clusters in the First Five Years After Undergraduate Degree of Millennial US College Graduates who Studied Technology

Cluster	*n* Tech grads who entered this cluster	% Tech grads who entered this cluster	*n* Tech grads who left this cluster	Early Career Change Rate	*n* Tech grads who switched to this cluster	% Tech grads who switched to this cluster
Law, Security	2	3%	2	100%	2	3%
Manufacturing	7	9%	6	86%	4	5%
Education, Training	9	12%	7	78%	0	0%
Business, Mgt, Admin	2	3%	1	50%	1	1%
Info Tech	24	31%	9	38%	7	9%
Architecture, Construction	7	9%	2	29%	1	1%
Finance	5	6%	1	20%	3	4%
STEM	15	19%	1	7%	9	12%
Govt, Public Admin	1	1%	0	0%	0	0%
Health Science	1	1%	0	0%	0	0%
Hospitality, Tourism	4	5%	0	0%	0	0%
Marketing, Sales	1	1%	0	0%	0	0%
Agr, Natural Resource	0	0%	0	n/a	1	1%
Arts, AV, Communication	0	0%	0	n/a	1	1%
TOTAL	78	100%	29	37%	29	37%

Table A14

Rank-order Correlations: Three Planned Happenstance Variables and Early Career Change

	1	2	3	4
1 Flexible (Yes or No)	571			
2 Optimistic (Yes or No)	.04	571		
3 Openness to Risk (Low, Moderate, High)	.03	-.01	513	
4 Early Career Changer (Yes or No)	.00	-.01	.10**	571

Notes: $*p < .01$; sample sizes for each variable appear along the diagonal.

Table 15

Correlation Analysis Between When Early Career Change Occurred and Openness to Risk Using the Gamma Statistic

Race	*Gender (N of Cases)*	*Gamma*
White	All (644)	-.164*
	Men (270)	-.239*
	Women (374)	-.115
Black	All (135)	.082
	Men (45)	.155
	Women (90)	.060
Asian	All (35)	-.294
	Men (17)	-.418
	Women (18)	-.180
Hispanic (Non-White, Non-Black)	All (49)	-.528*
	Men (16)	-.581
	Women (33)	-.497
Other	All (16)	-.394
	Men (4)	-1.000
	Women (12)	-.529
All Races	All (879)	-.154**
	Men (352)	-.212*
	Women (527)	-.117

Notes: Early Career Change Period coded as an ordinal variable based on year when first career change occurred: 1st yr, 2nd yr, 3rd yr, 4th yr, 5th yr, Not in first 5 yrs. Openness to risk coded as an ordinal variable: low, moderate, high. *$p < .05$, **$p < .01$

Table A16

Results of Binary Logistic Regression Predicting Early Career Change Among Millennial US College Graduates

Variable	*B*	*SE*	*Wald*	*Exp(B)*
Flexible	-.18	.24	.58	.83
Optimistic	-.07	.22	.10	.93
High Risk taker	.11	.23	.23	1.12
Low Risk taker	-.52	.26	3.93	.59*
Female	.06	.21	.08	1.06
White	-.44	.57	.58	.64
Black	-.08	.62	.01	.93
Asian	.27	.73	.14	1.31
Hispanic (Non-White, Non-Black)	-.31	.69	.21	.73
Constant	-.52	.61	.72	.60

Notes: Total cases included in analysis = 513, used the Enter method, Nagelkerke R^2=.02, Hosmer & Lemeshow p=.17. *$p < .05$